NBC-455 Dinion IP Cameras

www.boschsecurity.com

BOSCH
Invented for life

- 1/3-inch color CCD with progressive scan
- Quad streaming
- Flexible recording options
- Intelligence at the edge
- ONVIF conformant

Dinion IP cameras are progressive scan CCD color cameras. They can quad-stream video simultaneously — on two H.264 streams, an I-frame recording stream, and an M-JPEG stream. Features such as multicasting, internet streaming and iSCSI recording are fully supported. Dinion IP cameras have built-in video motion detection and additional processing power for video content analysis systems.
To simplify installation, automatic lens detection and easy OSD installation procedures are provided.
Dinion IP cameras include picture enhancement features such as NightSense for low light scenes and Autoblack for low contrast scenes.
Supported by the award-winning Dinion digital imaging technology, they provide a proven, dependable solution for many security and surveillance requirements.

Functions

Progressive scan
To capture sharp images, even in busy scenes with high motion content, the Dinion camera uses progressive scan technology.

A quality image
With a 1/3-inch color CCD and Bosch's advanced digital signal processing, the Dinion IP provides professional image quality. Automatically activate the NightSense feature to extend sensitivity under low-light conditions by a factor of three in monochrome operation. Autoblack improves the overall contrast of an image in low contrast scenes, such as foggy weather conditions.

Efficient bandwidth and storage management
The cameras use H.264 (Main Profile) compression, bandwidth throttling, and multicasting capabilities to manage bandwidth and storage requirements efficiently, while delivering high image quality and resolution.
Bosch's innovative Quad-streaming feature enables the Dinion IP to deliver three H.264 streams (two 4CIF streams and an I-frame only stream) together with an M-JPEG stream. These four streams facilitate bandwidth-efficient viewing and recording options as well as integration with third-party video management systems.
Dinion IP cameras offer unparalleled recording options. Attached to the network, they can use iSCSI targets directly without any additional recording software. The recording capabilities of the system can be further enhanced by using the Bosch Video Recording Manager.

The camera also supports local recording on a microSD card. This can be used for local alarm recording or for Automatic Network Replenishment (ANR) to improve the overall reliability of video recording.

Standard intelligence
With built-in video content analysis, the camera reinforces the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. The MOTION+ video motion analysis system, which is built into all camera versions, is the perfect solution for applications where basic video content analysis features are required. This motion analysis algorithm is based on pixel change and includes object size filtering capabilities and sophisticated tamper-detection capabilities.

Hardware enhanced
The hardware-enhanced version of the camera gives you the opportunity to upgrade the video content analysis features of the camera with the more advanced Intelligent Video Analysis (IVA) option. This option bases the IVA algorithm on digital imaging technology that uses multi-level image analysis of pixels, texture, and object direction, and is activated by installing a license.

ONVIF conformance
The camera conforms to the ONVIF (Open Network Video Interface Forum) specification which guarantees interoperability between network video products regardless of manufacturer. ONVIF conformant devices are able to exchange live video, audio, metadata and control information. They are automatically discovered and connected to network applications such as video management systems.

Unsurpassed flexibility
There are many ways to access the camera's video: on a PC using a web browser, with the Bosch Video Management System, or with the Bosch Video Client. The camera is also ideal for use with a Divar 700 Series digital video recorder. By routing a video stream to a Bosch video decoder, you can also present the video with ultimate clarity on an analog monitor.

Cost effective, simple installation
Three power options, PoE (Power-over-Ethernet), 24 VAC and 12 VDC are available. Using PoE makes installation easier and more cost-effective, as cameras do not require a local power source. To increase system reliability, the camera can be simultaneously connected to both PoE and 12 VDC/24 VAC supplies. Additionally, uninterruptible power supplies (UPS) can be used, which will allow continuous operation, even during a power failure.
For trouble free network cabling, the cameras support Auto-MDIX.

Dinion IP cameras can be configured using the control buttons on the camera as an alternative to configuration over IP. The On-Screen Display (OSD) simplifies back focus adjustment and network configuration, minimizing installation and support costs. The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to maintain proper focus.

Easy Upgrade
Remotely upgrade the camera whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Access Security
Various security levels are available for accessing the network, the camera, and the data channels. As well as password protection with three levels, 802.1x authentication using a RADIUS is supported. To secure Web browser access use HTTPS with a SSL certificate stored in the camera. For total data protection, the video and audio communication channels can be independently AES encrypted with 128-bit keys by installing the optional Encryption Site License.

Typical applications
- Museums and art galleries
- Shopping centers
- Offices
- Schools, colleges and universities
- Petrol / gas station

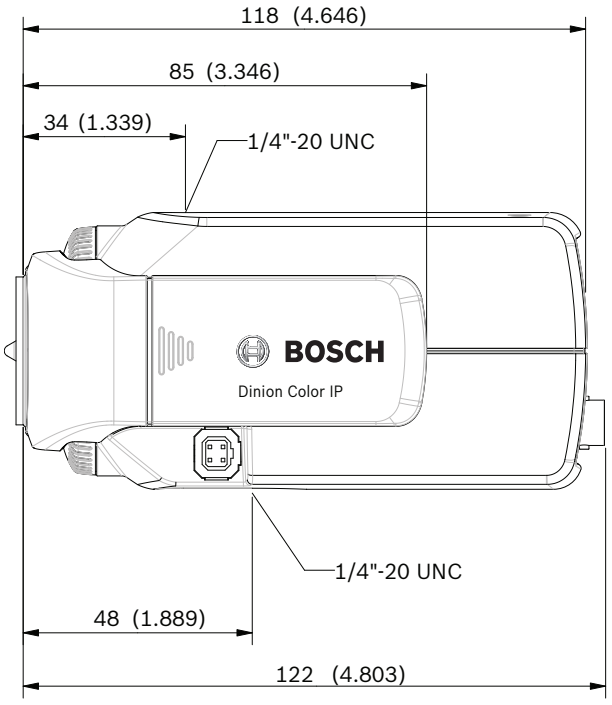
Certifications and approvals

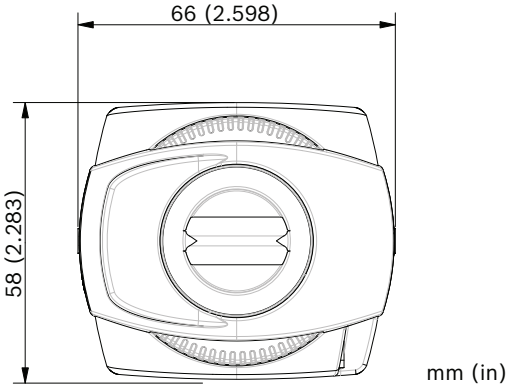
Electro Magnetic Compatibility	
Emission	EN55022 Class B EN61000-3-2 EN61000-3-3 FCC Part 15
Immunity	EN50130-4 (PoE, +12 VDC) EN55024 (24 VAC) EN50121-4
Safety	EN60950-1 UL60950-1 (2nd edition) CAN/CSA-C 22.2 No. 60950-1
Vibration	Camera with 500 g (1.1 lb) lens as per IEC60068-2-6 (5 m/s^2, operational)

Region	Certification
Europe	CE
USA	FCC + UL

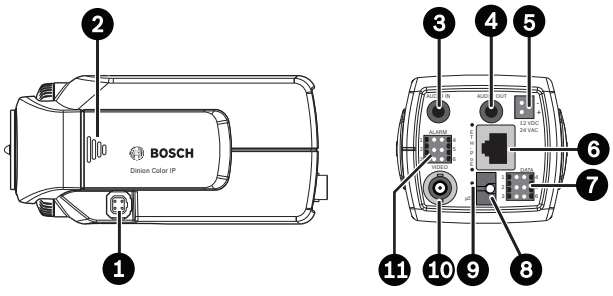
Installation/configuration notes

Dimensions





Controls



1	Lens connector	7	Data (RS485/422/232)
2	Control buttons	8	MicroSD card slot
3	Audio in	9	Reset button
4	Audio out	10	BNC video output (service mode)
5	Power supply input	11	Alarm in, relay out
6	10/100 Base-T Fast Ethernet		

Parts included

Quantity	Components
1	NBC-455 Series Dinion IP Camera
1	Spare lens connector
1	Safety Instructions
1	Quick Install Guide
1	Mini DVD-ROM with manuals, software and tools
1	Power connector
1	Alarm I/O connector
1	Data connector

Notice
Lens and microSD card are not included in a standard delivery.

Technical specifications

Electrical

Model No.	Rated Voltage	Rated Frequency
NBC-455-1xP	24 VAC ±10%	50 Hz
	12 VDC ±10%	
	Power-over-Ethernet	
NBC-455-2xP	24 VAC ±10%	60 Hz
	12 VDC ±10%	
	Power-over-Ethernet	
Current Consumption	450 mA | 550 mA IVA (12 VDC) 450 mA | 550 mA IVA (24 VAC) 200 mA | 250 mA IVA (PoE 48 VDC)	
Power Consumption	5.4 W | 6.6 W IVA (12 VDC) 6.7 W | 8.2 W IVA (24 VAC) 9.6 W (PoE 48 VDC)	

Sensor	
Type	1/3-inch, CCD
Active Pixels (PAL)	752 x 582
Active Pixels (NTSC)	768 x 494

Video	
Video compression	H.264 (ISO/IEC 14496-10); M-JPEG, JPEG
Data rate	9.6 Kbps to 6 Mbps
Resolution	Horizontal x vertical (PAL/NTSC ips)
• 4CIF	704 x 576/480 (25/30 ips)
• CIF	352 x 288/240 (25/30 ips)
Overall IP Delay	Min. 120 ms, Max. 240 ms
GOP structure	I, IP, IBBP
Frame rate	1 to 50/60 (PAL/NTSC) H.264 1 to 25/30 (PAL/NTSC) M-JPEG

Video Out	
Signal	Analog composite (NTSC or PAL), service
Connector	BNC, 75 Ohm
Horizontal resolution	540 TVL
Video S/N	50 dB

Sensitivity (3200 K, scene reflectivity 89%, F1.2)

	Full video (100 IRE)	Usable picture (50 IRE)	Minimum illumination (30 IRE)
Color	2.6 lx (0.26 fc)	0.65 lx (0.065 fc)	0.30 lx (0.03 fc)
NightSense	1.04 lx (0.104 fc)	0.26 lx (0.026 fc)	0.12 lx (0.012 fc)

Color/NightSense	Auto, Forced
Dynamic Range	60 dB (10-bit image processing)
Signal-to-noise Ratio	> 50 dB
BLC	Center window weighting
Gain	20 dB (max)
White Balance	ATW (2500 to 10000 K), ATWHold
Shutter	Auto (1/50 [1/60] to 1/50000) automatic flickerless, fixed selectable
Auto Black	Automatic continuous, Off
Privacy Masking	Four independent areas, fully programmable
Video Motion Analysis	Motion+ or IVA
Test Pattern Generator	Color bars 100%, Grayscale 11-step, Sawtooth 2H, Checker board, Cross hatch, UV plane
Synchronization	Internal, Line Lock, selectable

Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch) and C-mount compatible
Lens Types	Manual, DC- and Video-Iris auto-detect with override DC-iris drive: max. 50 mA continuous Video-iris: 11.5 VDC ±0.5, max. 50 mA continuous
Controls	OSD with soft-key operation (multi-lingual)

Audio	
Standard G.711	300 Hz to 3.4 kHz at 8 kHz sampling rate
Signal-to-noise ratio	> 50 dB

Input/output

Audio	1 x mono line in, 1 x mono line out
• connector	3.5 mm stereo jack
• signal line in	9 kohm typical, 5.5 Vpp max
• signal line out	3.0 Vpp at 10 kOhm typical, 2.3 Vpp at 32 Ohm typical, 1.7 Vpp at 16 Ohm typical
Alarm	2 inputs
• connector	Clamp (non-isolated closing contact)
• activation voltage	+5 VDC to +40 VDC (+3.3 VDC with DC-coupled 22 kOhm pull-up resistor)
Relay	1 output
• connector	Clamp
• voltage	30 VAC or +40 VDC Maximum 0.5 A continuous, 10VA
Data port	RS-232/422/485

Software Control

Unit Configuration	Via web browser or Configuration Manager
Flicker Control	50/60 Hz, selectable
Software update	Flash ROM, remote programmable

Network and Storage

Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, HTTPS, FTP, DHCP, IGMP V2/V3, ICMP, ARP, SMTP, SNTP, SNMP, 802.1x, UPnP
Encryption	TLS 1.0, SSL, AES (optional)
Ethernet	STP, 10/100 Base-T, auto-sensing, half/full duplex, RJ45
PoE supply	IEEE 802.3af compliant
Local Storage	Supports microSD cards (SDHC)

Mechanical

Dimensions (H x W x L)	58 x 66 x122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	524 g (1.155 lb) without lens
Color	RAL 7035 Light Gray
Tripod Mount	Bottom and top 1/4-inch 20 UNC

Environmental

Operating Temperature*	-20°C to +50°C (-4°F to 122°F)
Operating Temperature (IVA)*	-20°C to +45°C (-4°F to 113°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

* for extended temperature range use HAC-IPCCC

Ordering information

NBC-455-11P Dinion IP Camera
Dinion Color IP Camera, 1/3-inch Progressive Scan, H. 264, PAL, 50Hz, PoE, microSD slot
Order number **NBC-455-11P**

NBC-455-12IP Dinion IP Camera
Dinion Color IP Camera, 1/3-inch Progressive Scan, H. 264, PAL, 50Hz, PoE, microSD slot, IVA enabled
Order number **NBC-455-12IP**

NBC-455-22IP Dinion IP Camera
Dinion Color IP Camera, 1/3-inch Progressive Scan, H. 264, NTSC, 60Hz, PoE, microSD slot, IVA enabled
Order number **NBC-455-22IP**

LTC 3364/50 Varifocal Lens
1/3-inch, 2.8 – 10 mm, DC-iris, CS-mount, F1.4-360, 4 pin
Order number **LTC3364/50**

LTC 3364/60 Varifocal Lens
1/3-inch, 3.5 – 8 mm, DC-iris, CS-mount F1.4-360, 4-pin
Order number **LTC3364/60**

LTC 3374/50 Varifocal Lens
1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.7-360, 4-pin
Order number **LTC3374/50**

UPA-2410-60 Power Supply
120 VAC, 60 Hz, 24 VAC, 10 VA Out
Order number **UPA-2410-60**

UPA-2430-60 Power Supply
120 VAC, 60 Hz, 24 VAC, 30 VA Out
Order number **UPA-2430-60**

UPA-2450-60 Power Supply, 120 V, 60 Hz
Indoor, 120 VAC, 60 Hz In; 24 VAC, 50 VA Out
Order number **UPA-2450-60**

UPA-2420-50 Power Supply
220 VAC, 50 Hz, 24 VAC, 20 VA Out
Order number **UPA-2420-50**

UPA-2450-50 Power Supply, 220 V, 50 Hz
Indoor, 220 VAC, 50 Hz In; 24 VAC, 50 VA Out
Order number **UPA-2450-50**

HAC-IPCCC Camera Cooling Case
For use with Dinion IP cameras in combination with HSG and UHO Series housings equipped with an optional blower
Order number **HAC-IPCCC**

MVC-FIVA4-CAM
IVA 4.xx/5.xx VCA software license for IP camera/dome (e-license)
Order number **MVC-FIVA4-CAM**

MVS-FENC-AES BVIP AES 128 Bit Encryption
BVIP AES 128-bit encryption site license. This license is required only once per installation. It enables encrypted communication between BVIP devices and management stations.
Order number **MVS-FENC-AES**

Accessories

LTC 3374/21 Varifocal Lens
1/3-inch, 5 to 50 mm, DC-iris, CS-mount F1.4-360, 4-pin
Order number **LTC 3374/21**

LTC 3364/41 Varifocal Lens
1/3-inch, 2.8 to 12 mm, DC-iris, CS-mount F1.4-360, 4-pin
Order number **LTC 3364/41**

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